



EV – Energy Vault



High density 48V DC energy storage system with 15-year life*

The EV (Energy Vault) system offers a high energy storage capacity and low cost of ownership even in those demanding applications with routine daily cycling to high Depth of Discharge levels of 80% or more.

The on-board Battery Management System enables high charge/discharge rates, whilst ensuring efficient cell energy balancing, and cell failure redundancy control.

Simple plug & play installation with robust Anderson power connectors, and easy on/off switch control with LED power capacity meter.

For more sophisticated real-time monitoring, the EV supports local or web-based reporting of system health, power input, consumption and capacity. Where higher capacities are required, multiple EV battery banks can be combined to create systems with multi-node monitoring.

The EV can be charged from mains or directly from solar and is the ideal energy storage solution for a range of DC or AC load applications:

- Full-system UPS for computer suites
- Energy store for solar or other renewable sources
- Energy store for load-shifting – capture energy when it's available (or cheaper) – use anytime.

Compared to conventional sealed lead acid batteries, EV batteries are a fraction of the size, can safely use almost all the stored energy (rather than just half) and don't suffer from temperature related performance losses.

According to an independent test report by Manchester University*, EV will still be delivering high performance energy storage after 10-15 years of heavy daily use.

Specifications

VOLTAGE DATA	1.5kW	2.4kW	4.8kW
Nominal Voltage	48V		
Capacity	1.4 to 1.5kW	2.3 to 2.4kW	4.6 to 4.8kW
Voltage range	37.5V to 54.8V		

CHARGING & POWER	
Charging method	Constant current / constant voltage
Maximum discharge current/peak current	50A continuous, 70A peak
Maximum charge current	50A continuous
Charge time @80%/85%DOD	Around 10 hours at 10A (4.8kW UNIT)
Lifecycles	3000+ at 0.5C / 80% DoD
Maximum output power	2500W

STATUS LED's	
Visual battery charge status	
Alarm & operational running status	

ENVIRONMENTAL SPECIFICATIONS	
Operating temperatures	Charge 0°C to 55°C / Discharge -20°C to 55°C
Storage temperatures	-10~45°C
Operating humidity	<65% RH

PHYSICAL	1.5kW	2.4kW	4.8kW
Weight	16kg	30kg	59kg
Dimensions (H x W x D, mm)	178 x 440 x 320	178 x 440 x 320	178 x 440 x 594
Format	4U 19" rack mount		

BATTERY MANAGEMENT SYSTEM	
Options for monitoring locally on a PC, fault alarms & alerts	
Communication via RS232, RS485 and remotely over the internet	

WARRANTY	
Standard	3 Years
Extended	5 Years

EMC TEST RESULTS	
Conducted Emissions	EN 61000-6-3:2007+A1:2011, EN 61000-6-4:2007+A1:2011
Radiated Emissions	EN 61000-6-3:2007+A1:2011, EN 61000-6-4:2007+A1:2011
Fast Transient and Burst Immunity	EN 61000-6-2:2005, EN 61000-4-4 :2012
Voltages Dips and Interruptions	EN 61000-6-2:2005, EN 61000-4-11 :2004
Electro Static Discharge Test	EN 61000-6-2:2005, EN61000-4-2 :2009
Power Frequency Magnetic Field Immunity	EN 61000-6-2:2005, EN61000-4-8 :2010
Radiated Electromagnetic Field Immunity	EN 61000-6-2:2005, EN 61000-4-3 +A1:2010 +A2:2010
Conducted Disturbances Induced by Electromagnet Fields	EN 61000-6-2:2005, EN 61000-4-6 :2014
Current Harmonics	EN 61000-6-2:2005, EN 61000-3-2 : 2014
High Impulse Surge Test	EN 61000-6-2:2005, EN 61000-4-5:2014



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How it Works

